COALITION OPERATIONS: POLITICALLY NECESSARY YET OPERATIONALLY CHALLENGING

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COALITION OPERATIONS, POLITICALLY ESSENTIAL, OPERATIONALLY CHALLENGING

From the birth of this great nation and our own struggle for freedom to the epic battles of two world wars in the 20th century and the ensuing Cold War, the strength of our partnership has always exceeded the sum of its parts.

-- General Henry H. Shelton, Chairman of the Joint Chiefs of Staff[1]

Introduction

The fact that the United States will continue to conduct military operations with coalition partners is a given. What makes that endeavor operationally challenging is the fact that the United States has a significant technological military capability and an overwhelming defense budget by international standards. Even when looking at many of these nations' budgets combined, there is still a shortage of spending when compared to the United States. Recent operations have identified several ally shortfalls that need to be corrected. Efforts are under way to address these interoperability and capability challenges. In the end, unless U.S. partners boost defense spending, their ability to participate with the United States in military operations will continue to be challenging for quite some time.

The Necessity of Coalition Operations

The requirement for U.S. forces to anticipate working closely with foreign partners is demonstrated by the numerous multinational operations that have taken place since DESERT STORM. Military combat operations such as PROVIDE COMFORT, RESTORE HOPE, DENY FLIGHT, JOINT ENDEAVOR, ALLIED FORCE, ENDURING FREEDOM and IRAQI FREEDOM testify to the likelihood that U.S. forces will need to work closely with coalition or

[1] Joint Publication 3-16, opening comments, 5 April 2000.

alliance military forces. These are but a few of the many multinational operations that have occurred since one of the largest coalitions in recent history was used in 1991 in the first Gulf War.

The latest major conflict, Operation IRAQI FREEDOM, was preceded by a significant effort by the United States to gain international participation. Whether that was done for political legitimacy, economic reasons, anticipated post-conflict challenges or military necessity, the amount of press coverage prior to the war showed how much critical attention the international arena was paying to who was "in" and who was "out" of the coalition.

In anticipation of multinational operations, the United States has even developed joint doctrine with "multinational" directly within the title.[2] Other U.S. joint doctrine publications include chapters dedicated specifically to multinational operations.[3] The United States continues to support International Military Education and Training (IMET) and exchange programs with numerous countries throughout the world. A fairly recent National Defense University-sponsored study highlighted the need for coalition partners, pointing out that without sufficient international backing, the United States, with its pre-Gulf War II buildup, "runs the risk of generating more sympathy for Iraqi people than animus for the Iraqi regime."[4] Many now in hindsight would take exactly that same position. The study further indicates that other nations may just be waiting for the United States to take care of major problems, and once the economic benefits begin to appear, these nations will be more than willing to participate. The study goes on to say that the Europeans may be claiming similar international goals, but don't back up those goals with appropriate policies or capabilities.

In recent moves in the positive direction, the upcoming expansion of NATO from 19 nations to 26 as well as the establishment of the Mediterranean Dialogue, Partnership for Peace ini-

[2] Ref JP 3-16, JP 4-08.
[3] Ref JP 1, Chapter VII; JP 3-0, Chapter VI; JP 5-0, Chapter II, Section G.
[4] David C. Gompert… [et al.], *Mind the Gap: Promoting a Transatlantic revolution in Military Affairs*, National Defense University Press, 1999, p. xi.

tiative, the NATO-Ukraine Commission and the NATO-Russian Permanent Joint Council highlight the increased emphasis on multinational involvement, both on the political and the military side. All this may be good news, but the reality of foreign military capabilities leaves plenty of room for improvement.

The Technology Gap in Coalition Operations

Within the past ten years, widespread dialogue and press reports point to a significant technology gap between U.S. forces and other nations. One of the most recent studies undertaken seems to indicate that the gap is more a capabilities gap than a technological one.[5] Other studies confirm ally technology is not keeping up. When it comes to allied efforts toward digitization as a way to adapt to the U.S. Army Force XXI capability, "even the most advanced NATO allies have not been able to keep up with the multiple U.S. Army digitization plans."[6]

Significant discussion of a gap began shortly after the Kosovo Campaign in the spring of 1999. As the war over Serbia was taking place, studies were pointing out that significant reductions in defense spending, around 25 percent, had taken place since the end of the Cold War[7]. Defense planners indicated that "only a handful of Europe's notional forces are really available for the kind of missions NATO is likely to undertake" and one example pointed out that out of 5,000 European military aircraft theoretically able to carry out air strikes, only 10 percent were capable of precision bombing.[8] Even though Europeans had been more concerned with sensitivity of certain targets during the war, they had little military capability to operate in accordance

[5] *Transatlantic Interoperability in Defense Industries: How the US and Europe Could Better Cooperate in Coalition Military Operations,* September 2002. For an executive summary see the Web site: http://www.europeaninstitute.org/pdf/IO.pdf
[6] Michele Zanini and Jennifer Morrison Taw, *The Army and Multinational Force Compatibility*, RAND, MR-1154, 2000, p. 22.
[7] *The Economist*, 24 April 1999, NATO Survey Special Pullout Section, p. 11.
[8] Ibid.

with those sensitivities. As the war was continuing, NATO celebrated its 50th anniversary by hosting the Washington Summit and producing a long list of Defence Capability Initiatives (DCIs) to which nations agreed they would progress.[9] Despite this, the NATO industrial acquisition committee structure is still designed around traditional equipment rather than smart weapons or communication systems, according to Dr. Jacques Gansler, the Pentagon's previous acquisition chief.[10] For a while, the French Defense Minister, Alain Richard, claimed that the technology gap was exaggerated. French defense officials claimed the gap was narrowing back in 2000, but that was before the big jump in U.S. defense spending starting in 2001.[11]

Before 9/11, NATO Supreme Allied Commander Europe (SACEUR) General Joseph Ralston discussed the existing asymmetry in capability and commented that "Europe's shrinking defense industrial base and limitations in production of advanced military capabilities could lead to a future where only the United States has the ability to engage globally."[12] The "go it alone" approach was even evident in the Clinton Administration's January 2000 National Security Strategy.[13] With all the complaints that the United States is continuing to take the lead, sometimes as a solo player, the United States only makes the situation worse by continuing to hinder defense exports and technology "even to relatively reliable NATO allies, and [discouraging] direct European investment in defense industries in the United States."[14]

The compromise, of course, is to let coalition partners participate, but keep them separated since separation is easier than integration. Separation was used during the first Gulf War to a large extent because coalition partners like Egypt had Soviet-era equipment similar to that of the Iraqis and, subsequently, the opportunity for fratricide would have been quite large without

[9] Press communiqué from the NATO Web site: http://www.nato.int/docu/facts/2000/nato-dci.htm
[10] *The Economist*, 24 April 1999.
[11] Pierre Sparaco, *Aviation Week & Space Technology*, 6 March 2000, p. 24.
[12] Paul Mann, *Aviation Week & Space Technology*, 26 March 2001, p. 33.
[13] Cindy Williams… [et al.], *Holding the Line: US Defense Alternatives for the Early 21st Century*, The MIT Press, 2001, p. 21.
[14] Ibid, chapter on burden sharing by Gordon Adams, p. 82.

such separation. Even the latest Gulf War saw a geographic separation of the smallest of coalitions with the British taking the southeastern sector of Iraq and U.S. forces concentrating on the remainder. The reasons for that arrangement have yet to emerge from the classified reports, but capability gaps due to technological differences in communication equipment, inter alia, are likely to be one of the major aspects.

If the United States can't operate effectively in a coalition with its NATO allies, working closely with other nations will only become even more challenging.

The Gap Isn't Getting Any Smaller

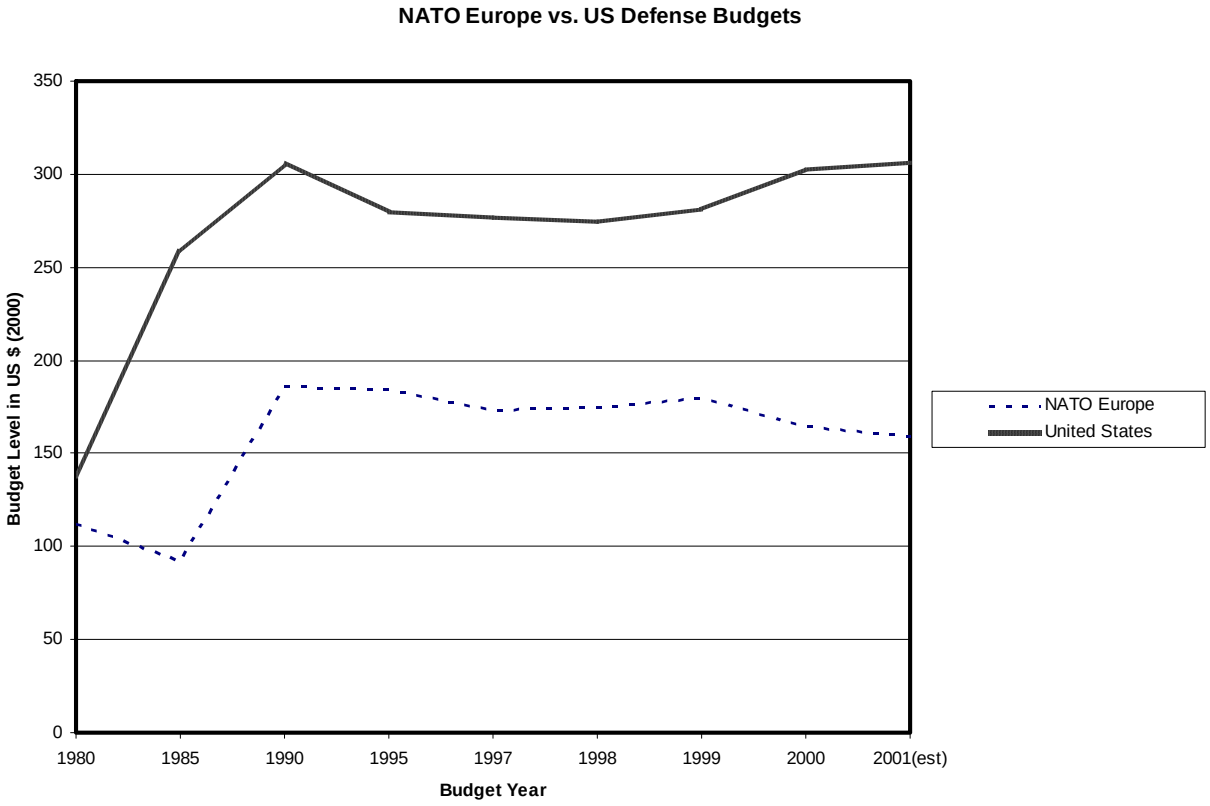
Post-9/11, the gap appears to continue growing. A major part of the problem is a lack of proper investment in defense. General Ralston pointed this out when discussing progress on DCIs, relating that he felt NATO discussions were "more rhetoric than reality."[15] Differences in modernization budgets and priorities are increasing and "The technology gap that characterized past operations will continue to grow."[16] The gap is continuing to widen, as shown by the fact that both the investment in science and technology (S&T)—or research and development (R&D), depending on definitions—and overall defense spending continue to be quite disparate between Europe and the United States.

The early development of the gap can be related to overall defense spending as far back as 1980. Since that time, the United States has continued to outspend the rest of NATO. Using data from the reference for Table 1 below, it can be seen that NATO minus the United States spent anywhere from 39 percent (1985) to 85 percent (1980) of the total U.S. defense budget. Since the cold war, NATO minus the United States has spent only 53 percent to 69 percent, with

[15] General Joseph W. Ralston, *Armed Forces Journal*, June 2001, Interview on "The Evolving Alliance," p 47.
[16] Michele Zanini, RAND, MR-1154, p. 25.

the low number occurring in the 2001 estimate. Assuming inflation adjustment through FY05 for everyone but the United States, this figure decreases below even the 50 percent level.[17] Acknowledging that there was in fact a capability gap to begin with, this trend in spending does not appear to even attempt to correct the problem.

Table 1[18]



If European members of NATO were under the impression that they could transform using asymmetric approaches to improve their technologies, then looking at the raw S&T data requires one to assume that they will have to make huge leaps if they plan to catch up with, let alone keep up with the United States. "No single European country spends more than about 10% of what the U.S. spends" in S&T, but as a whole Europe spends about one-third of the U.S. S&T

[17] Recent NATO country budget data was not readily available, but the authors noted that only France and the British have increased their budgets above the EU inflation rate which was assumed to be a generous 3 percent. U.S. budgetary data is from the government Web site: http://www.dod.mil/comptroller/defbudget/fy2005/

[18] Data available to generate this table is online at http://www.nato.int/docu/handbook/2001/hb090803.htm or in the *NATO Handbook 2001*, p. 213. Currency of data is likely to be 2000.

total.[19] And much of the European S&T budget is spent on each country's needs, resulting in much duplication occurring when every nation is doing research to build a better bullet. Taking a look at the transatlantic comparisons of R&D versus the overall defense budget, the United States has spent about 14 percent of its total defense budget on this area, whereas the rest of NATO averages no better than 3 percent on R&D for the period 1996-2001.[20] The recently released U.S. President's defense budget for FY2005 is asking for $69B, pushing the U.S. percentage dedicated to transformational technologies up to 17 percent.[21] Assuming again that normal inflation is used to adjust the present and projected NATO R&D budget, their figure would not even come to $10B. With this disparity, it is hard to imagine any plausible way that the rest of NATO could even assume it has a chance to keep pace with the United States or even close the technology or capabilities gap. It is true that there may be some hidden funds within the rest of NATO that are not accounted for, but unless another $60B is uncovered, the gap with the United States is going to get worse quickly.

Now one must keep in mind that U.S. spending is probably higher because it is based on operating from the North American continent. Also a significant number of its forces are stationed overseas, essentially pre-positioned for any emerging conflicts. But this budgetary analysis does not even include the supplemental funds that are used to fight the conflicts in Afghanistan and Iraq, which added $65B for military spending in 2004 alone.[22]

Now, the rest of NATO may still think they are doing fine by looking at percentage of GDP they spent on defense (see Table 2); the discussions revolving around Table 1 convincingly

[19] Sharon Hobson, et al, "Defense research key to bridge European-US technology gap," *Jane's International Defense Review*, Sept. 2001, p. 26.
[20] From *The Military Balance* publications of the International Institute for Security Studies, available for purchase from the Web site http://www.iiss.org .
[21] All recent budget data comes from the DOD Web site http://www.defenselink.mil/news/Feb2004/040202-D-6570C-001.pdf, which was published on 4 Feb. 2004.
[22] Details of the supplemental can be obtained from the following Web site: http://64.177.207.201/pages/16_32.html

show that these are very small budgets individually, so they can make little progress in matching U.S. capabilities, even when one combines them.

One major complaint within Europe is the tight controls that the United States maintains on its technology and industrial base. Many argue that if the United States were to open up its markets for both imports and exports, the business case could be made for more investment in defense. A recent study by the EU Commission was very critical of U.S. trade policy and was most upset with DOD policy in particular.[23] U.S. technology export controls continue to be very strict; very few foreign companies are allowed to bid on U.S. DOD contracts, and many restrictions limit the amount of foreign content allowed in export products under the Foreign Military Sales (FMS) program.[24] An analysis in 2000 of the European efforts to encourage greater transatlantic cooperation came to the conclusion that several trends did not "suggest a positive environment in which the United States can safely rely on European defense capabilities."[25]

The conclusion then is that future coalition operations will become even more challenging. If tensions between U.S. and European partners increase, then this "could reinforce the U.S. tendency to rely on forces intended to carry out global missions unilaterally, without

[23] Brooks Tigner, *Defense News*, 5 January 2004, "Is Washington Guarding National Security or Business Interests?" pp. 1-7. The report referred to is the 19th annual Report on United States Barriers to Trade and Investment released 19 Dec. 2003.
[24] Ibid.
[25] Cindy Williams, chapter by Gordon Adams, "Seeking Strength in Numbers: The European Allies and U.S. Defense Planning," p. 112.

Table 2
Defense expenditures of NATO countries as % of GDP (1980-2002e)[26]

NATO Defense Expenditures, in percent of GDP (based on current prices)

	Average 1980–1984	Average 1985–1989	Average 1990–1994	Average 1995–1999	1998	1999	2000	2001	2002e
Belgium	3.2	2.8	2.0	1.5	1.5	1.4	1.4	1.3	1.3
Czech Republic	//	//	//	//	//	2.2	2.3	2.1	2.1
Denmark	2.4	2.0	1.9	1.7	1.7	1.6	1.5	1.6	1.5
France	4.0	3.8	3.4	2.9	2.8	2.7	2.6	2.5	2.5
Germany	3.3	3.0	2.1	1.6	1.5	1.6	1.5	1.5	1.5
Greece	5.4	5.1	4.4	4.6	4.8	4.8	4.9	4.6	4.4
Hungary	//	//	//	//	//	1.6	1.7	1.8	1.8
Italy	2.1	2.3	2.1	1.9	2.0	2.0	2.1	2.0	1.9
Luxembourg	1.0	1.0	0.9	0.8	0.8	0.7	0.7	0.8	0.8
Netherlands	3.0	2.8	2.3	1.8	1.7	1.8	1.6	1.6	1.6
Norway	2.7	2.9	2.8	2.2	2.3	2.2	1.8	1.8	1.9
Poland	//	//	//	//	//	2.0	2.0	2.0	2.0
Portugal	2.9	2.6	2.6	2.2	2.1	2.1	2.1	2.1	2.3
Spain	2.3	2.1	1.6	1.4	1.3	1.3	1.2	1.2	1.2
Turkey	4.0	3.3	3.8	4.4	4.4	5.4	5.0	4.9	5.0
UK	5.2	4.5	3.7	2.7	2.6	2.5	2.5	2.5	2.4
NATO Europe	3.5	3.2	2.6	2.2	2.1	2.1	2.1	2.0	2.0
Canada	2.0	2.1	1.8	1.3	1.3	1.3	1.2	1.2	1.1
United States	5.6	6.0	4.7	3.3	3.1	3.0	3.1	3.1	3.3
NATO Total	4.5	4.5	3.5	2.7	2.6	2.5	2.6	2.6	2.7

Source: NATO, *Financial and Economic Data Relating to NATO Defence*, December 20, 2002.

relying on European support."[27] NATO Secretary General Lord George Robertson was even quoted by Radio Free Europe saying that Europe, when compared to the United States, is "a military pygmy."[28] After the war in Iraq was officially declared to have concluded last spring, NATO's Assistant Secretary General for Defence Investment indicated that "Allies need to find a way to allocate more resources to defense. There's only so far you can go in pooling efforts or being smarter in how you spend money if the total amount being spent is still inadequate to the

[26] Jean-Paul Bechat … [et al.], *The Future of the Transatlantic Defense Community*, Jan 2003, sponsored by The Center for Strategic and International Studies, p. 51. See Web site: http://www.csis.org/pubs/2003_future.pdf
[27] Ibid, p. 16.
[28] Kathleen Knox, "NATO: Alliance Finds Itself Pondering Questions of Currency," 12 Feb. 2002, found at the following Web site: http://www.rferl.org/features/2002/02/12022002091605.asp

task."[29] All of this demonstrates a continuing increase in the gap between U.S. capabilities and those of even the closest allies. Contemporary coalition operations have demonstrated the impact of this gap, so a quick review of these shortfalls is in order.

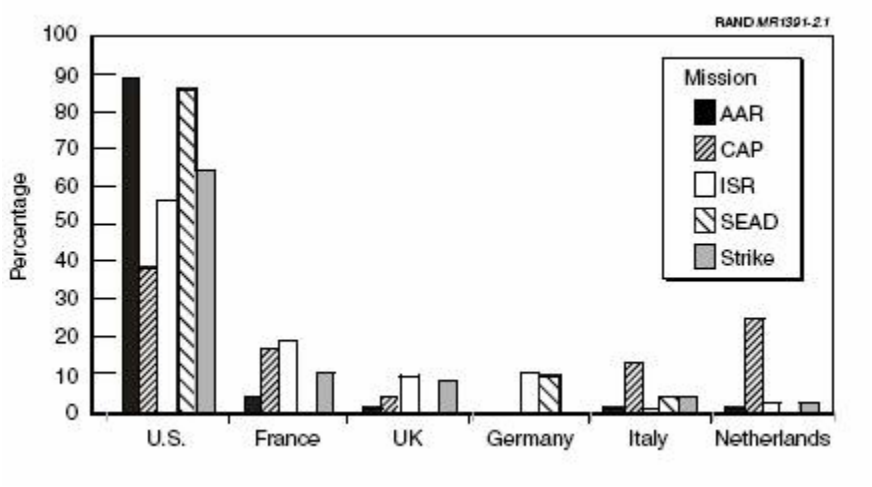
Impact of the Technology Gap

Recent coalition operations have been lauded by commanders and the press alike as the key to effective operations and the modern recipe for success. On the battlefield it's the proper mixture of capabilities brought to bear at the correct time and in the correct proportions that leads to success. Some huge differences in defense spending and technological advances of U.S. historical coalition partners have been noted; these differences have manifested themselves several ways both during preconflict planning and during the fray. Without going into each coalition-involved operation, some lessons can be proven to be cross-cutting in nature. A few comments on one of the more recent coalition operations highlight the overall theme. A quick look at the percentage of sorties flown in Operation ALLIED FORCE by U.S. versus non-U.S. aircraft in table 3 below shows just one example of the overreliance of NATO on U.S. contributions to that air war. One recent study put it this way: "Operation Allied Force highlighted disparities between U.S. and NATO forces so substantial as to create an impression that NATO was merely cover for an essentially U.S. effort."[30] Several key shortfalls were identified repeatedly for operations in DESERT STORM, Bosnia and Kosovo: communications, command and control, precision strike, intelligence, surveillance and reconnaissance, and logistics/lift capabilities.

[29] NATO Assistant Secretary General for Defence Investment Robert G. Bell, from a published video speech, 25 June 2003, see the Web site http://www.nato.int/docu/speech/2003/s030625b.htm
[30] Bruce R. Nardulli …. [et al.], *Disjointed War*, RAND, MR-1406, 2002, p. 44.

Table 3[31]

Percentage of sorties flown (by country) during Operation ALLIED FORCE, 1999



Communications, Command and Control

> First, we need to really improve the interoperability of our forces…. In the early days of the deployment to Bosnia, we had great difficulty communicating with one another because we had incompatible equipment…. [F]orces still need to share more information and data more efficiently….
>
> --Secretary of Defense William S. Cohen, Remarks at the Transatlantic Forum of the Western European Union, Washington, D.C., June 30, 1998

In a coalition environment, the gathering and dissemination of coherent information is not a trivial pursuit, and is often the first sign of true interoperability. Command and control has been severely hampered by the lack of interoperable secure communications. European secure communication systems use a different technology than U.S. systems. At the operational level, headquarters units did not have secure phone lines. Even though NATO does have a system, its capacity is limited, and was quickly overwhelmed by the volume of information and the introduction of numerous virus attacks. Bosnia showed that NATO STU-IIB secure phones were incompatible with U.S. STU-IIIs. The exact same problem repeated itself in Kosovo four years later. There was still little capability to relay classified information between the U.S. systems

[31] John Peters, RAND, MR-1391, p. 30.

and the rest of NATO. Since the United States met 95 percent of NATO's intelligence requirements, this incompatibility was significant. Commanders in Kosovo who needed to convey target lists or the daily air tasking order (ATO) had to print out the information and hand-deliver it. [32] As part of close air support operations, a good system of separating friend from foe has continued to be a problem. In DESERT STORM, a U.S. aircraft struck a British armored personnel carrier, killing nine personnel.[33] In the most recent conflicts, U.S. forces have accidentally killed Canadian troops on the ground in Afghanistan, and both British and U.S. crewmen in aircraft flying in Iraq. Few things can be more detrimental to coalition building than fratricide.

Force planning and execution monitoring for U.S. air operations is done using the Contingency Theater Air Planning System (CTAPS) and the follow-on Theater Battle Management Core System (TBMCS). NATO has developed the Interim CAOC Capability (ICC) for force-level planning, with a planned follow-on to the Air Command and Control System. Neither of the NATO systems was developed with interoperability with U.S. systems in mind, and the current ICC was built to control from 200 to 1,000 sorties per day, compared to CTAP's 3,000 sorties per day. [34]

Strike Aircraft

The majority of U.S. allies have primarily fighter aircraft for military operations. While this enables allies to fly the majority of combat air patrol (CAP) sorties, it proved a marked disadvantage when the coalition needed to engage ground targets. The French and the British are among the few allies who could employ precision-guided munitions (PGMs), which were the weapons of choice during the later phases of ALLIED FORCE when the allies were engaging

[32] John Peters, RAND, MR-1391, p. 56.
[33] Peter C. Hunt, "Coalition Warfare: Considerations for the Air Component Commander" (Maxwell Air Force Base, AL: Air University Press, 1998), p. 29.
[34] Myron Hura…[et al.], *Interoperability: A Continuing Challenge in Coalition Air Operations*, RAND, MR-1235, 2000, pp. 46-47.

point targets and the media was closely watching for collateral damage.[35] During that operation, only the United States had all-weather strike capability in the form of the JDAM 2,000-lb. GPS-guided weapon.

Intelligence, Surveillance and Reconnaissance

In the first Gulf War, it was the overall shortage of assets outside those of the United-States that showed how far behind all U.S. allies had drifted. In Bosnia, a few more countries emerged with capabilities, but the ability to share that collected data or the support to analyze that data was quite lacking. In Kosovo, the release of imagery or location data took up to 72 hours, so the process had not improved.[36] But the French felt that tactical reconnaissance aircraft, for which Europe has the advantage, were more valuable than American satellite coverage. The United States probably prefers assets that are out of reach of enemy air defense weapons, so the continued use of drones/UAVs in the near future is the likely U.S. plan.

Strategic Lift

Strategic airlift continues to be a major shortfall for NATO allies. They lack the capability to airlift large amounts of personnel and equipment beyond their borders. France has bought the C-160, as well as cargo versions of the DC-8. [37] The U.K. is also leasing C-17s from the United States with plans for a possible replacement such as the Airbus A400M program, which is in the initial stages of planning. Scheduled for initial delivery in 2009, this program has attracted

[35] John Peters, RAND, MR-1391, p. 35.
[36] James P. Thomas, "The Military Challenges of Transatlantic Coalitions," The International Institute for Strategic Studies (IISS), Adelphi Paper 333, 2000, p. 52.
[37] John Peters, RAND, MR-1391, p. 64.

signatures from 14 nations from within NATO.[38] On the naval side, allies lack "sufficient roll-on, roll-off transport ships to move heavy forces quickly."[39]

Aerial Tankers

Aerial refueling allows today's forces to both "play the away game" by giving them "long legs," but also allows strike aircraft to loiter longer on the battlefield, awaiting time-sensitive targets, or waiting for the weather over a target to clear for positive identification and a clear shot in the absence of GPS-guided weapons. Several countries have a small fleet of tankers, but only the U.K., France and Germany intend to increase their capabilities with new acquisition programs.

Suppression of Enemy Air Defenses (SEAD)

The only allies who could contribute beyond the United States to the SEAD mission were Germany and Italy. The German and Italian Tornados were shooters in the SEAD mission, firing their antiradiation missiles at the surface-to-air missile sites as they turned their radars on. [40] The biggest weakness within NATO-Europe is the lack of any radar jamming capability.

Efforts Under Way to Close the Gap

U.S. allies are taking measures to "keep up with the Americans." There are many examples of individual nation improvement efforts. However, the best example is the organized group effort of the 19 current nations of NATO, now expanded to 26.

[38] Martin Aguera, *Defense News*, "Delays Threaten European Lease," 26 January 2004, pp. 1-8.
[39] James P. Thomas, p. 37.
[40] Myron Hura, RAND, MR-1235, p. 133.

Allied Command Transformation

As a result of agreements at the Prague Summit in 2002, NATO set up a strategic command (SC) focused on transformation. Allied Command Transformation (ACT), in Norfolk, Virginia, "was established to lead the transformation of NATO military structures, forces, capabilities, and doctrines in order to improve the military effectiveness of the Alliance."[41] ACT operates under the guidance of the North Atlantic Council and supports the other SC in NATO, the Allied Command Operations (ACO) in Mons, Belgium. ACO is responsible for preparing for and conducting all NATO operations.

ACT has five transformation branches, each focused on a different area:

1. Strategic Concepts Policy and Interoperability (SCPI)
2. Requirements and Capabilities Planning and Implementation (RCPI)
3. Future Capabilities Research and Technology (FCRT)
4. Joint Experimentation, Exercise and Assessment (JEEA)
5. Joint Education and Training (JET)

Each of the five areas draws from a group of NATO command elements and agencies to support its focus area. These include the following:

The Joint Force Training Centre (JFTC) in Poland

The Joint Warfare Centre (JWC) in Norway

The Joint Analysis and Lessons Learned Centre (JALLC) in Portugal

The Undersea Research Centre (URC) in Italy

The NATO Consultation, Command & Control Agency (NC3A) in The Hague

[41] Allied Command Transformation. http://www.act.nato.int/multimedia/media products/ACT.htm, p. 4.

The NATO nations have dedicated extensive time, money, manpower, and organizational effort toward transforming themselves into a force "flexible enough to run joint task forces of varying size and composition whenever and wherever the Alliance recognizes a need."[42]

A key link between the NATO ACT effort and U.S. technology improvement is the fact that the same man heads both ACT and U.S. Joint Forces Command (USJFCOM) and can therefore push NATO in directions similar to those of the United States if he feels it appropriate. Admiral Edmund Giambastiani, U.S. Navy, is the first Supreme Allied Commander Transformation. USJFCOM has the lead within the U.S. military for U.S. joint interoperability. "A fully functional USJFCOM-ACT relationship will be the cornerstone of vital engagement with the United States." [43] (Admiral Edmund Giambastiani)

Allied Modernization Efforts

Examples of U.S. Allies' modernization efforts are not hard to find. Many of them specifically target interoperability with the United States. A simple review of *Jane's Defense Weekly* provided the following six examples of individual nation interoperability improvements, efforts and initiatives.

1. NATO Sealift

At the Prague Summit in November 2002, NATO identified a shortfall in military sealift capability for its rapid deployment forces equivalent to 12-14 medium-sized roll-on/roll-off vessels. Norway was given the lead on Strategic Sealift. On 1 September 2003 a Sealift Coordination Center was established at Eindhoven, Norway.

On 1 December 2003, nine NATO nations signed the Multinational Implementation Agreement on sealift. The nations agreed to acquire a multinational capability package of five

[42] Allied Command Transformation. http://www.act.nato.int/multimedia/media products/ACT.htm, p. 7.

[43] Allied Command Transformation. http://www.act.nato.int/transformation/collaboration.htm

RO-RO ships, with 2004 planned as a trial year. The aim is to incrementally develop further capacity for subsequent years based on the experience gained during the first 12 months of operation.[44]

2. Spanish Air Force Hornet Upgrade

Spain signed a contract in December 2003 for a mid-life upgrade (MLU) of its EF-18 Hornet fleet. The aircraft improvements in the MLU improve the joint and combined interoperability for Spanish EF-18s. These include the following:

- Have Quick II communications
- Full identification, friend or foe (IFF) capability
- Night vision goggle-compatible cockpit and external lighting[45]

3. U.S.-Taiwan Technical Intelligence

The United States is pushing Taiwan to enhance its technical intelligence capabilities through two means. The first is a synthetic-aperture radar (SAR) satellite. The second is a signals intelligence (SIGINT) aircraft.[46]

4. Australia and United States Plan Joint Training Facility

The United States and Australia plan to establish a joint training facility in Australia. Goals are to refine operational aspects and interoperability between their armed forces. This initiative includes pre-positioning of stores and equipment in Australia to aid in the U.S. strategic intention of rapid force projection capability.[47]

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[44] Scott, Richard. "NATO Nations sign up for sealift." *Jane's Defence Weekly*, 7 January 2004. http://janes.com/subscribe/jdw/doc

[45] Gething, Michael J. "Spain begins series upgrade for Hornets." *Jane's Defence Weekly*, 21 January 2004. http://janes.com/subscribe/jdw/doc

[46] Minnick, Wendell. "US urges Taiwan to bolster technical intelligence assets." *Jane's Defence Weekly*, 14 January 2004. http://janes.com/subscribe/jdw/doc

[47] Bostock, Ian. "Australia, US plan joint training facility." *Janes's Defence Weekly*, 28 January 2004. http://janes.com/subscribe/jdw/doc

5. Australia and U.S. Missile Defense

The Australian Minister of Defence announced that a memorandum of understanding (MOU) will be signed with the United States establishing a framework for cooperation. Expected within the initiative is the construction of three air warfare destroyers (AWDs) for the Royal Australian Navy. The initial capability for these ships will be initial identification and tracking of ballistic missiles. This information would be transmitted to U.S. Navy ships able to intercept and destroy missiles in flight. Future enhancements would give Royal Australian Navy ships identification, tracking, and engagement capability through the long-range Standard SM-3 ship-based theater defense missile.[48]

6. Czech CBRN Battalion

In December 2003 NATO stood up its first chemical, biological, radiological, and nuclear (CBRN) defense battalion, led by the Czech Republic.[49] This development exhibits a philosophy that smaller nations can complement multinational forces though specialization. The objective stressed is for nations to excel in an area instead of trying to maintain parity in all areas with the United States, which is an unachievable goal for most nations.[50]

The Near Future: The NATO Response Force (NRF)

One of the leading initiatives for interoperability within NATO is the NATO Response Force. A new initiative, which is meant to provide a true joint and combined warfighting capability, the NRF is seen as a vehicle for improving NATO military technology and alleviating the technology gap with the United States.[51]

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[48] Ibid.
[49] Robertson, Lord. "Change and continuity." *NATO Review.* Winter 2003. http://www.nato.int/docu/review/2003/issue4/english/art1.html
[50] April Phillips (JO1) (SW/AW). "NATO to New Members: Don't Compete…Complement. *Multimedia Library,* November 5, 2003. http://www.act.nato.int/multimedia/articles/2003/110503cdeconf)1.htm
[51] "The NATO Response Force-NRF." Supreme Headquarters Allied Powers Europe. 23 January 2004. http://www.nato.int/shape/issues/shape_nrf/nrf_intro.html

The NRF is expected to number some 21,000 troops. It is designed to possess the full spectrum of warfighting capabilities and to be self-sustainable for 30 days. With a goal of being ready to deploy within five days' notice, it is an aggressive initiative.

> The NRF concept was endorsed at the Prague Summit, held in November 2002, and approved by the North Atlantic Council on 12 June 03. The purpose of the force is to provide NATO with a robust and credible high readiness capability, which is fully trained and certified as a joint and combined arms force able to deploy quickly to participate in the full spectrum of NATO missions wherever required, expeditionary in character and design.[52]

Focusing NATO on this NRF concept will emphasize expeditionary capabilities such as ISR, remote communications, deployability and sustainability—all areas in which NATO Europe currently has limited capability. So the side effect of signing up to the NRF concept should force nations to modernize their current military force structure in a direction similar to U.S. capabilities.

Present Expertise, International Peacekeeping

Currently, one of the greatest military capabilities that U.S. Allies retain is the ability to carry out combined peacekeeping. The NATO Alliance countries are practiced and efficient in this role. They have demonstrated this combined capability in many places, including several with the United States, notably in Bosnia and Kosovo. In August 2003, NATO took a landmark step by taking over the International Security Assistance Force (ISAF) in Afghanistan. This was the first time NATO had headed a security operation outside of Europe.[53] Combined interoperability in the peacekeeping role is a proven NATO strength.

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[52] "NATO Response Force Development on Target." Supreme Headquarters Allied Powers Europe. 16 July 2003. http://www.nato.int.shape/news/2003/07/i030716a.htm

[53] Synovitz, Ron. "AFGHANISTAN: NATO TAKES OVER ISAF COMMAND AMID CALLS FOR EXPANSION." 12 August 2003. *EURASIA INSIGHT*, http://www.eurasianet.org/departments/insight/articles/pp081203.shtml

The Closest U.S. Military Ally

The nation maintaining the closest military interoperability with the United States is Great Britain. It recognizes the need for continued compatibility with U.S. and NATO forces and strives in all areas to maintain it. Iraqi Operations Lessons Learned repeatedly cite advantages such as, "The RAF's ability to integrate seamlessly with the U.S. Air Force reflected 12 years of operating together in the no-fly zones over Iraq."[54] This statement is closely mirrored in U.S. lessons learned.[55] The British were able to closely match interoperability in both naval and ground warfare as well in Operation IRAQI FREEDOM. They deployed their largest amphibious force since 1982.[56] They also deployed over 28,000 ground troops and eventually incorporated forces from nine countries into the Multi National Division in what they call Operation *TELIC.*[57]

Great Britain seeks to retain future interoperability though cooperative acquisition as well. For example, the British are planning two fixed-wing aircraft carriers, which they refer to as CVFs (carrier, fixed-wing, future) to reach their fleet in 2012. This timeframe coincides with the expected arrival of their version of the joint strike fighter (JSF).[58] The degree of cooperation that the British participation in the JSF program demonstrates is rare, but will assure a significant level of interoperability in combat air operations.

Great Britain is without a doubt the United States' most militarily interoperable Ally. It maintains this level of interoperability through extensive interaction in both peacetime and con-

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[54] *Operations in Iraq: Lessons for the Future.* Chapter 7 – "Working in a Coalition." 7.7 Interoperability. http://globalsecurity.org/military/library/report/2003/iraq-ops_lessons_ukmod_dec00

[55] Jim Garamone, "Admiral Expands in Iraqi Freedom Lessons Learned," American Forces information Service, 2 October 2003. http://www.iwar.org.uk/news-archine/2003/10-02.htm. Admiral Giambastiani's testimony to House Armed Services Committee.

[56] *Operations in Iraq: First Reflections.* Chapter 2: "Planning and Preparation." 2.7 UK Force contribution. http://www.globalsecurity.org?military/library/report/2003/iraq-ops_1st-refs_ukmod-jul03

[57] *Operation TELIC—British Forces,* Ministry of Defence. http://www.operations.mod.uk/telic/forces.htm

[58] *Naval Aviation*, The Royal Navy, http://www.armedforces.co.uk/navy/listings/1032.html

flict. The British extend this level of cooperative effort to their European NATO Allies as well. Great Britain has made itself the lowest common denominator in combined military operations.

NATO's Defence Capabilities Initiative (DCI)

A watershed event occurred in April 1999 when the NATO defense ministers formally adopted Defence Capabilities Initiatives and established a High-Level Steering Group to foster the implementation of these 58 initiatives within the Alliance to improve the interoperability, deployability, and sustainability of NATO forces.[59] DCIs were a regular part of the annual NATO planning process during which member nations report the steps they are taking to improve their military forces. Since major additional defense spending among most of the allies is highly unlikely, the force planning process must adopt ways to prioritize the objectives the Alliance really wants its members to accomplish, such as deployability and sustainability. DCIs sought to improve Alliance capabilities in five areas:[60]

- Mobility and Deployability: deploy forces quickly where they are needed to include areas outside the alliance territories
- Sustainability: maintain and supply forces far from home
- Effective Engagement: successfully engage an adversary in a spectrum of operations ranging from high to low
- Survivability: protect forces and infrastructure against current and future effects
- Interoperable Communications: use command, control and information systems that are compatible with each other to enable different countries to work together

While DCIs resulted in additions to NATO's 1999 and 2000 force goals, few allies have made the financial investments necessary to promptly implement these goals.

[59] Defence Capabilities and the Defence Capabilities Initiative, http://www.rand.org/publications/MR/MR1463/MR1463.ch7.pdf
[60] idem.

Prague Capability Commitment (PCC) and Other Organizational Efforts

The follow-on to the DCIs came out of the Prague Summit. Renamed the Prague Capability Commitments, the number of initiatives was reduced to focus attention to areas deemed most important. NATO also has other organizations within that are focused on improving interoperability. The NATO Standardisation Agency (NSA) is responsible for ensuring that standards are published so that nations have something on which to base their designs as well as electrical and communications interfaces. Over 1,300 Standardisation Agreements (STANAGs) exist and most nations use these when acquiring or designing capabilities. To help with basic research as nations attempt to focus on emerging capabilities that will be required in the future, the Research Technology Organisation (RTO) works to consolidate S&T efforts of many of the nations and has five boards that help steer limited funding in the proper direction. Once nations determine that they will acquire new equipment, another organization in NATO can aid in that aspect as well. The Conference of National Armaments Directorates (CNAD) has numerous working groups within to help maximize procurement dollars by acquiring similar or even identical equipment so that it is interoperable at least from the equipment (a.k.a. armaments in NATO-speak) side of things. In an analysis of the military operations in Kosovo, however, there was still much criticism of NATO efforts to modernize:

> One obvious problem was a widening gap in capabilities between U.S. and other NATO air forces.... Moreover, despite fifty years of standardization efforts, NATO forces still exhibited significant interoperability problems. NATO heads of state launched a {DCI} during the Washington Summit in April 1999 to improve capacity, but declining or stagnating European defense budgets could make some problems intractable.[61]

The United States also participates in similar organizations outside of NATO, especially with the Australians, New Zealanders, and usually in cooperation with the Canadians and the U.K., an example of which is the American, British, Canadian, and Australian Armies' Stan-

[61] Bruce R. Nardulli, RAND, MR-1406, p. 47.

dardization Program (ABCA).[62] The common native language helps make for faster progress in several instances.

Two other European alliances have been formed lately in an effort to help bridge the capabilities gap. The European Union (EU) has developed a Headline Goal (HG) as part of its European Security and Defence Policy (ESDP) which will be able to "deploy within sixty days and sustain for at least one year military forces of up to 50,000-60,000 persons capable of the full range of Petersburg tasks."[63] While the EU Rapid Reaction Force began it first operation in 2003, the force size was only 700 strong rather than anything close to the 60,000 promised in the HG.[64] The HG was further expanded in December 2001 into a program called the European Capabilities Action Plan (ECAP).[65] Some have been critical that the ECAP and DCIs are duplicative and added costs of dual administration can only take more away from capabilities. The other alliance was formed by the Defence Ministers of Germany, France, the U.K., Italy, Spain and the non-NATO member, Sweden. A letter of intent was signed at the Farnborough Air Show in 1998 to help their defense industries to garner more trust amongst each other so that efficiencies could be gained for the limited defense funds of the member countries.[66]

International Cooperation a U.S. Initiative: OSD (Acquisition, Technology & Logistics) Coalition Warfare Program (CW)

Coalition warfare is a U.S. defense-wide effort to assist the combatant commanders, Services and DOD agencies in integrating coalition-enabling solutions into existing and planned U.S. programs. While the United States works to fix its own interoperability challenges, this

[62] Michele Zanini, RAND, MR-1154, p. 46.
[63] Cindy Williams, Gordon Adams chapter, p. 85. The Petersburg tasks came out of a previous EU summit and covered only the capabilities at the lower end of the spectrum of warfare, including peacekeeping and humanitarian assistance.
[64] Gerrard Quille, *Making European Defence Work*, International Security Information Service, Europe, 16 Feb 2003, http://www.isis-europe.org/ftp/Download/Making%20Eu%20defence%20work%20-%20ESR%2015.pdf
[65] Ibid.
[66] Burkhard Theile, *Bridging the Gap*, Military Technology, 2/2002, pp. 11-12.

parallel effort with allies should narrow the capabilities gap and shorten the timeframes for legacy system replacement.[67] CW seeks to nurture cooperative projects that will enhance interoperability between U.S. forces and coalition partners worldwide. These projects are selected for their emphasis on warfighter solutions that offer capabilities such as coalition tactical communications, ISR, combat identification, and coalition logistics. CW addresses the various stovepiped U.S. acquisition processes that often focus on Service-unique issues without first assessing potential coalition interoperability implications of the new project.[68] CW can also expand the scope of U.S.-only Advanced Concept Technology Demonstrations (ACTD) in order to encourage allied participation. These programs are typically a joint effort by the acquisition and warfighter communities to identify significant military requirements and match them with technological programs sufficiently mature to focus on a solution. While ACTDs seek a joint solution beyond Service interests, CW will encourage allied nation participation where possible.

The Way Ahead

Given the preceding analysis, it appears that NATO and other U.S. allies have one approach that can definitely bring about useful changes to enhance coalition operations. Given the budgetary constraints all over the world, the best way forward should be an increased emphasis on role specialization. Operation IRAQI FREEDOM highlighted the Australian SAS contribution to hunting down SCUD missiles.[69] Polish Special Forces have been recognized in several briefings as valuable contributors to U.S. operations.[70] The Czech Republic is developing a significant chemical-biological defense capability unique to NATO. Supreme Allied Commander

[67] Coalition Warfare, http://www.acq.osd.mil/ic/cwp.html
[68] Idem
[69] *Jane's Missiles and Rockets*, 1 July 2003
[70] Briefings presented during the Joint and Combined Warfighting School (JCWS) Joint Professional Military Education (PME) Phase II lectures, January-March 2004.

Europe General James Jones also emphasized the desire to have the new member-nations of NATO contribute more to specialty areas of chemical and biological response as well as focused logistics.[71] The British SAS, mine-clearing, and photo reconnaissance capabilities are also niche capabilities on which the United States will continue to rely. If more nations can develop capabilities in other special areas, they can then become key contributors to multinational operations on the high end of the spectrum of warfare. If not, then they will be left with operations on the lower end.

Conclusion

Even with all of the above examples of interoperability initiatives, the fact remains that only the British come close to the United States' operational military capabilities. Other NATO nations cannot keep up with U.S. technological capabilities across the spectrum of warfare. With the impending NATO expansion, the overall NATO ability to maintain technical parity will be diluted further.

While credible military contributions can be made by America's allies, many of these are at the low end of the spectrum of military operations such as peacekeeping. The increasing technology gap means the United States must be prepared to perform warfighting at the high end of the spectrum of conflict with limited allied participation, at least for the near future.

There is, however, light at the end of the tunnel in the form of substantial and focused initiatives on the Europeans' part, and NATO in particular. PCCs, STANAGs, CNAD and the RTO along with transformational initiatives of ACT should bring marked increases in capabilities exactly where NATO needs them most, not across the board, but in the focused areas that recent coalition operations have highlighted.

[71] Lyric Wallwork Winik, "Where Our Concern Should Be," *Parade Magazine*, 7 March 2004, pp. 8-9.

All these efforts will help, but the bottom line is that past and current defense budget disparities between the United States and the rest of the world will keep the technology and capabilities gap at best on an even keel. Today, role specialization appears to be the best way forward. U.S. allies can, and need to, do more if they want to continue to play in the political arena of the world as well.

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